New Frontiers in Research Fund – Transformation

2020 Transformation Competition

Description

The objective of the Transformation stream is to support large-scale, Canadian-led **interdisciplinary** research projects that address a major challenge with the potential to realize **real and lasting change**. The challenge may be fundamental, leading to a scientific breakthrough, or applied, with a social, economic, environmental or health impact. Projects are expected to be world-leading, drawing on **global** research expertise, when relevant.

Transformation stream grants will support projects that:

1. tackle a **well-defined** problem or challenge;
2. propose a **novel world-leading** approach that is different from the current state-of-the-art approaches to the issue;
3. are **interdisciplinary**, bringing different perspectives to the defined problem; and
4. have the potential to be **transformative**, defined as the potential to **create a significant and real change or impact** — a noticeable leap or tangible breakthrough rather than an incremental advance.

The definition of transformative is linked to the Canada Foundation for Innovation's proposed definition of convergence research, where "convergence research is increasingly seen as the way to solve pressing challenges." It is aligned with the National Science Foundation's definition of convergence research, focusing on research driven by a specific and compelling problem and deep integration across disciplines. It also has strong parallels to Horizon Europe in its reference to mission-oriented research and innovation with bold and concrete objectives to respond to societal challenges.

Value and Duration

Transformation grants are valued at between $2,000,000 and $4,000,000 per year (including indirect costs) for up to six years.

The maximum budget for the direct costs of the research project is $3,200,000 per year, and the minimum budget is $1,600,000. Applicants must request a budget (value and duration) commensurate with the objectives of the project. Applicants may also add up to 25% of the value of the direct costs of research to cover indirect costs and include this in the total funding request. This portion of the award must be used only to pay for eligible expenses, as outlined on the Research Support Fund website. The component of each award for indirect costs is included in the award value; it is not in addition to it.

Eligible expenses related to the direct costs of research are outlined in the Tri-Agency Guide on Financial Administration. The objective of Transformation grants is to support projects with strong potential to make significant change. As a result, funds should be used primarily to support research activities and not for the acquisition or maintenance of infrastructure.

Transformation grants are awarded to a nominated principal investigator (NPI) in an eligible institution; they are not institutional grants. Successful applications will be awarded a grant of up to six years. A mid-term review of all funded projects is mandatory to ensure they are on track to meet objectives within the six-year timeframe. If the mid-term review is unsuccessful, grants may be terminated early. Given that research is, by its nature, driven by hypotheses and that outcomes are uncertain, it is understood that approaches, goals and objectives may have to be modified as the project progresses. The mid-term review will evaluate the project's progress to date and plans for the remaining time, taking this into consideration.

Eligibility

Project Team

To reflect the expertise required to deliver on the ambitious and interdisciplinary nature of the project, proposals must be submitted by teams. Teams must include a nominated principal investigator (NPI) and may include co-principal investigators, co-applicants and/or collaborators. Individuals who are not academic researchers are eligible for all roles except NPI. At the notice of intent to apply (NOI) stage, a minimum of five confirmed members (NPI, co-principal investigators and co-applicants but not collaborators) is required. Additional members can be added at each stage of the competition process and throughout the term of the grant. All core members of the team are expected to be confirmed when the letter of intent to apply (LOI) is submitted.

The appropriate team size and composition will depend on the requirements of the proposed project. The NPI and team members can be from any discipline(s). The NPI should be the most appropriate Canadian researcher to lead an interdisciplinary project of this scale which requires integration and coordination beyond usual disciplinary perspectives. Team members may be from any sector to ensure that all required sectors and disciplines are represented in the team and to provide an integrated interdisciplinary – and if applicable intersectoral – approach to the project. The focus should be on assembling a coherent team of experts to execute the project rather than on establishing a network.

National, international and cross-sector (private, public or other) collaborations are encouraged, as needed, to ensure that the most appropriate individuals and/or organizations are involved and that team composition reflects best practices in equity, diversity and inclusion. To support collaborations, funds from Transformation grants can be transferred to any organization within Canada or internationally except for-profit companies or federal, provincial or municipal governments.

Early career researchers (ECRs) must be included as confirmed members in all teams. For competitions under the Transformation stream, ECRs are defined as individuals who have five years' or less experience since their first academic appointment as of the first of the month of the competition launch with the exception of career interruptions (e.g., maternity or parental leave, extended sick leave, clinical training and family care) that occurred after their appointment. Part-time positions are taken into consideration. If a first academic appointment was part-time, the years of experience following it are counted at 50% until the time of an appointment to a full-time academic position. For all leaves except professional leaves (such as training-related, sabbatical, and administrative-related leaves), the five-year window is extended by twice the time interruption taken. Additional details are available in the FAQ.

To ensure that teams awarded a Transformation grant have sufficient time to dedicate to the project, award holders may serve as an NPI or co-principal investigator on only one Transformation grant. It is therefore recommended that individuals limit their participation as an NPI or co-principal investigator to a single application. An individual's status as an applicant or grantee of other NFRF competitions (Exploration or International) does not affect their eligibility for the Transformation stream.

Nominated Principal Investigator

The NPI:

- is responsible for the direction of the project and the coordination of proposed activities, in conjunction with the co-principal investigators (if applicable);
- completes the NOI, LOI and full application through the Convergence Portal and submits them to the research administrator at their institution;
- assumes the administrative and financial responsibility for the grant; and
- receives all related correspondence from the agencies.

The NPI must be considered an independent researcher at their primary affiliation –which is defined as the primary organization where the NPI is employed or appointed or where they conduct research.

An **independent researcher** is an individual who:

- engages in research-related activities that are not under the direction of another individual; and
- has an academic or research appointment that:
  - begins by January 1, 2021;
  - allows the individual to pursue the proposed research project, to engage in independent research activities for the entire duration of the funding, to supervise trainees (if applicable, as per their institution's policy) and to publish the research results; and
  - obliges the individual to comply with institutional policies concerning the conduct of research, the supervision of trainees (if applicable) and the employment conditions of staff paid with tri-agency funding

Students, postdoctoral fellows, research associates and such positions **are not eligible** to apply as NPIs.

The **NPI's primary affiliation** must be with a Canadian institution that currently has **full institutional eligibility** with one of the agencies (see the lists of eligible institutions for CIHR, NSERC or SSHRC).

> **Note:** If the NPI's primary affiliation is not on SSHRC's list of eligible institutions, the institution may be required to sign the Agreement on the Administration of Agency Grants and Awards by Research Institutions with SSHRC for this program only before receiving agency funds. Agency staff will contact the institutions of successful applicants after the notices of decision have been released to initiate this process as needed.

Co-principal investigators and co-applicants

Co-principal investigators share responsibility with the NPI for the direction of the proposed activities and may access grant funds.

Co-applicants contribute to the execution of the research project and may access grant funds.

The eligibility requirements are the same for co-principal investigators and co-applicants. The only difference between a co-principal investigator and co-applicant is their role: co-principal investigators work with the NPI to direct the project in addition to contributing to its execution, while co-applicants contribute to the execution of the project.

Co-principal investigators and co-applicants can be practitioners, policy-makers, educators, decision-makers, health care administrators, Indigenous elders, Indigenous knowledge keepers, patients, community leaders, individuals working for a charity, and a range of other individuals. To be eligible as a co-principal investigator or a co-applicant, researchers and professors must be considered independent researchers.

The co-principal investigators' and co-applicants' affiliation may be a Canadian institution or organization that does not have full institutional eligibility with one of the three granting agencies or it can be an international institution outside of Canada. However, it may **not** be a federal, provincial, territorial or municipal government department or a for-profit company.

Students, postdoctoral fellows, research associates, and such positions are not eligible to participate as a co-principal investigator or co-applicant.

Collaborators

Collaborators contribute to the execution of research activities but do not have access to grant funds.

Collaborators do not need to be affiliated with a Canadian institution that has full institutional eligibility with one of the agencies; they may be affiliated with another Canadian or international organization. Any individual who will contribute to the project is eligible to be a collaborator. Collaborators may include individuals affiliated with a federal, provincial, territorial or municipal government department or a for-profit company. Students, postdoctoral fellows, research associates and such positions are eligible to participate as a collaborator if they are not supervised by the NPI, co-principal investigator, co-applicant and/or another collaborator.

Subject Matter (Fit to Program)

Transformation grants support projects that propose a world-leading interdisciplinary approach with the potential to have a significant impact in addressing a well-defined challenge. Projects may involve any discipline, thematic areas, approaches or subject areas eligible for funding across the three federal research funding agencies (CIHR, NSERC and SSHRC). Projects should engage the full range of disciplines required to achieve the project goals.

To meet the minimum requirement to be considered interdisciplinary, the proposed research project must include elements from at least two different disciplines (as defined by a group-level classification based on the Canadian Research and Development Classification codes. Projects that fall under the mandate of only one federal research funding agency are not eligible.

Proposed projects may address fundamental or applied challenges.

Monitoring

Grant holders will be expected to report on the use of grant funds, on funded activities undertaken during the grant period, and on outcomes. NPIs of successful applications will be informed of reporting requirements when they are notified of the award.

Application Process

To apply for a Transformation grant, an NOI must be submitted by February 5, 2020. This is a mandatory step in the application process. The team must then complete and submit an LOI by April 15, 2020. Selected teams will be invited to complete and submit a full application by November 18, 2020.

Applicants must complete the NOI, LOI and full application using the Convergence Portal following the accompanying NOI, LOI and full application submission guides.

NOIs, LOIs and full applications received after the deadlines or that are incomplete will be withdrawn from the competition. No extensions to the deadlines will be provided. Please note that all NOIs, LOIs and full applications are submitted to the research administrator (research grants office [RGO] or equivalent) of the NPI's primary affiliation. Research administrators are free to set their own internal deadlines. The RGO must submit it through the Convergence Portal before the relevant deadlines.

Review Process

Considerations

Indigenous Research

SSHRC's Indigenous Research Statement of Principles and Guidelines for the Merit Review of Indigenous Research should be referred to by teams preparing applications related to Indigenous research. These guidelines are provided to merit reviewers to help build understanding of Indigenous research and research-related activities and to assist committee members in interpreting the specific evaluation criteria in the context of Indigenous research. The guidelines may also be of use to external assessors, postsecondary institutions and partner organizations that support Indigenous research.

Gender-Based Analysis Plus

Gender-based analysis plus (GBA+) is used to assess the potential impact that identity factors, such as sex, gender, race, ethnicity, religion, age and mental or physical disability, may have on the experience of the individual. These considerations must be integrated into the research design, when appropriate. The purpose of GBA+ is to promote rigorous research that is sensitive to sex and gender as well as many other identity factors, such as race, ethnicity, religion, age and mental or physical disability. Applicants and reviewers should refer to Status of Women Canada's information on GBA+ as well as the Sex- and Gender-Based Analysis (SGBA) section of the Canadian Institutes of Health Research (CIHR) website for definitions for sex, gender, SGBA and GBA+, as well as information on applying GBA+ and SGBA to the development and assessment of research proposals. A rationale must be provided in cases where the team believes that no aspect of the work may benefit from an analysis that takes into consideration sex, gender or other identity factors.

Selection Criteria

There are five selection criteria for all funding opportunities offered under the NFRF program. The weightings and application of the criteria may be adjusted between the different NFRF funding opportunities (Exploration, Transformation and International) to reflect the unique objectives of each. This section provides an overview of the criteria as they apply to the evaluation of proposals submitted to the Transformation competition. **Note that criteria are assessed at the LOI and full application stages and that the weighting of criteria changes between stages.** Reviewers will consider information provided in all sections of the LOI and full application when completing assessments against each criterion. The elements considered under each criterion are outlined in more detail in the evaluation matrices.

Interdisciplinarity

Transformation projects must propose an interdisciplinary approach that integrates different disciplinary approaches to bring a novel perspective to address the research challenge. Proposals must explain how the disciplinary perspectives, methodologies and techniques will be integrated and must demonstrate that the team has the required expertise to execute the interdisciplinary approach. The proposal must also explain why an interdisciplinary approach is required and/or the added value of this approach to the research problem.

Equity, Diversity and Inclusion (EDI) and Early Career Researchers (ECRs)

To ensure the greatest innovation and success, EDI is a core element of the NFRF program. In the context of the Transformation stream, the EDI criterion also includes consideration of early career researchers.

The team must demonstrate a commitment to EDI, demonstrating diversity by meaningfully engaging members of underrepresented groups, including the four designated groups (women, Indigenous peoples, members of visible minorities and persons with disabilities).

Teams should also consider diversity as it applies to career stages, sectors and institutions. The meaningful integration of all members in the project team is required, with concrete measures put in place to support their integration and leadership development, where appropriate.

The NFRF Best Practices in Equity, Diversity and Inclusion in Research provides guidance on how to integrate approaches that support EDI and information on how this criterion is assessed for submissions to all NFRF programs.

High Risk

In the context of the Transformation stream, high risk refers to the novelty of the proposed approach to the challenge. Proposals will have to explain:

- why the project is novel, as it relates to the latest methods, concepts, information, and techniques;
- how the approach builds on and benefits from expertise and resources across Canada and/or internationally;
- what makes the approach “world-leading”; and
- why the approach is expected to lead to real change.

High Reward

Funded proposals must have the potential for high reward – to be transformative – which is defined as the potential to create a significant and real change or impact. Applications must explain the anticipated change or impact that is likely to result and its significance. Proposals must also outline the major short-, medium- and long-term changes that are likely to result, the likelihood of their achievement, and who (or what) will be affected by the changes.

Feasibility

Feasibility covers the plan and the ability to execute the activities. It considers elements such as:

- problem or challenge being addressed;
- proposed approach, including GBA+/SGBA when appropriate;
- knowledge, expertise and capacity of the team;
- workplan and timeline;
- engagement and collaboration with First Nations, Inuit and Métis peoples (for Indigenous research) when appropriate;
- suitability of the research environment (i.e., access to required infrastructure); and
- management plans.

At the LOI stage, the evaluation will focus only on the feasibility of the proposed approach to the problem or challenge at a relatively high level. At the full application stage, the external reviewers and the multidisciplinary review panel will evaluate the project's feasibility in more detai,l considering: the team; the detailed project plan (methodological approach, timeline, etc.); the management plans as they relate to performance measurement, administration of the grant, data, and training (as applicable); and support of the project.

Competition Stages

- NOIs will be used only for administrative purposes to help the NFRF program team identify external reviewers and review panel composition.
- LOIs will be evaluated by the multidisciplinary/multisectoral review panel.
- Full applications will be reviewed by external expert reviewers and evaluated by the multidisciplinary/multisectoral review panel, taking into account the feedback provided by the external reviewers. The highest ranked applications will proceed to review by a jury to select the applications to recommend for funding.

Internal Review

Any NOIs, LOIs or full applications that do not meet the program's eligibility requirements and application guidelines will be withdrawn from the competition.

External Review

External reviewers with relevant subject matter expertise will evaluate applications according to the interdisciplinarity, high risk, high reward and feasibility selection criteria.

Multidisciplinary/Multisectoral Review Panel

A multidisciplinary review panel composed of national and international members with broad expertise will evaluate the LOIs and full applications against all criteria.

Jury

An international and multisectoral jury will evaluate all applications that meet the standard of excellence to select those to be recommended for funding. The jury will be composed of individuals from all sectors: academic, public, private, not-for-profit, and government.

To uphold the program's commitment to non-discrimination and equity, and to ensure the highest quality of review, members of the panel will be diverse, taking into consideration the following:

- area of expertise;
- sector;
- knowledge of best practices regarding EDI;
- experience in Indigenous research;
- ability to review applications in either official language;
- representation from the four designated groups (women, Indigenous peoples, visible minorities and persons with disabilities);
- regional representation across Canada;
- institution size; and
- career stage.

Review Process—LOI

Each LOI will be assessed by members of the multidisciplinary/multisectoral review panel. Members will have access to all information submitted as part of the NOI and LOI and will assess the proposal according to the following selection criteria:

- interdisciplinarity (pass/fail)
- EDI (pass/fail)
- high risk (20%)
- high reward (60%)
- feasibility (20%)

Members' ratings for the high risk, high reward and feasibility criteria will determine an overall score for each LOI. The review panel will meet to discuss the LOIs. In the event of a high volume of LOIs, members' ratings may be used to identify the LOIs that will be discussed at the face-to-face meeting. If there is a discrepancy between members' assessments, the LOI will be brought forward for discussion. At the meeting, the review panel will identify the top-rated LOIs to proceed to the full application stage.

Review Process—Full Application

Between 5 and 10 external reviewers will be recruited to evaluate each application, depending on the number of disciplines and sectors participating in the proposed project. The focus of external reviewers will be on the project plan; reviewers will be asked to comment on the interdisciplinarity of the proposed approach, as well as the high risk, high reward and feasibility criteria. External reviewers will have access to all sections of the submitted NOI, LOI and full application (except participants' personal profiles, suggested reviewers, reviewer exclusions and certifications).

Each application will also be evaluated by the multidisciplinary/multisectoral review panel. Members will have access to all sections of the submitted NOI, LOI and full application (except participants' personal profiles, the suggested reviewers, reviewer exclusions, and certifications) as well as the external reviewer reports. The review panel members will assess proposals against the following selection criteria:

- interdisciplinarity (confirm pass from LOI stage)
- EDI (confirm pass from LOI stage)
- high risk (25%)
- high reward (25%)
- feasibility (50%)

All applications will be discussed by the review panel at the face-to-face review meeting and then ranked. The top-ranked applications that meet the required standard of excellence according to all criteria at this stage will be invited to present their proposal in person to a jury. The jury will then select from the top-rated applications, based on their assessment according to the high reward and feasibility criteria, and make a recommendation as to which applications should be funded.

Steering Committee

The Canada Research Coordinating Committee (CRCC) is the steering committee for the NFRF program. The committee ensures that the evaluation process is rigorous, objective and transparent, in keeping with the standards of excellence expected by the agencies and consistent with the program's objectives. The committee also makes decisions regarding which applications to fund based on the review panel's and jury's recommendations.

Communication of Results

Applicants will be informed of competition results via the Convergence Portal. All applicants will be provided with the notice of decision, a summary of the evaluation of their application and external reviewer reports, when applicable. Additional details about the review process are available in the Reviewer Manual, which will be available before the NOI deadline.

Regulations, Policies and Related Information

All applicants and grant holders must comply with the Regulations Governing Grant Applications and with the regulations set out in the Tri-Agency Guide on Financial Administration.

Grant holders must also comply with the Tri-Agency Open Access Policy on Publications (see Open Access overview for more information). Researchers are encouraged to manage data arising from their research in accordance with community standards and best practices (see also the tri-agency policies and guidelines on Research Data Management).

Recipients of SSHRC funding must comply with SSHRC's Policy on Intellectual Property and Copyright.

Use of Grant Funds

The information provided below explains to grant holders and research administrators the regulations governing the use of NFRF grant funds. They supersede all previous statements on grant regulations.

The NFRF program uses the Tri-Agency Guide on Financial Administration (TAGFA) as the general guidelines for eligibility of expenses and use of funds related to the direct costs of research. Exceptions to those policies for Transformation grants are noted below. (Rules regarding the use of the indirect costs portion of the grant can be found on the Research Support Fund website.)

Compensation-Related Expenses

Salaries

- The following are eligible salary expenses only for nominated principal investigators, co-principal investigators and co-applicants affiliated with an eligible Canadian college:
  - salary for research activities of a part-time faculty member holding a contract of less than three years with the institution; the total salary support (part-time salary plus NFRF grant salary support) cannot exceed that of a full-time faculty member (when calculated on an annual and hourly basis);
  - salaries and non-discretionary benefits for technical and professional staff carrying out research and technology and/or knowledge transfer personnel—note: salaries and non-discretionary benefits for research administrators and business development personnel are not eligible;
  - limited costs for course load reduction for the replacement of faculty to support their involvement in funded research projects (up to $9,000 per course load reduction per semester per faculty, or the equivalent of a 0.1 full-time equivalent position); and
  - college student salaries* including non-discretionary benefits or stipends* to support their involvement in research projects.

Termination of a Grant

The agencies will terminate a grant when the grantee no longer holds an eligible position at an eligible institution unless it is transferred to an eligible co-principal investigator. It is at the agencies' sole discretion whether to allow such a transfer to take place.

The steering committee may direct that a grant be terminated following an unsuccessful mid-term review.

Residual Balances

All grants are deemed to have a primary holder, namely the grantee whose name appears on the award notice.

Any NFRF funds remaining at the end of the Authority to Use Funds period must be returned to SSHRC. When unspent funds are returned to SSHRC, the cheque, made to the Receiver General, must be accompanied by a signed Form 300, indicating an unspent balance in the same amount as the refund.

Terms and Conditions

The agencies reserve the right to:

- determine the eligibility of applications, based on the information provided;
- interpret the regulations and policies governing its funding opportunities;
- apply conditions to individual grants; and
- alter, without advance notice, the terms and conditions of grant awards — any and all major changes in regulations will be announced promptly.

Contact Information

For more information, contact: NFRF-FNFR@chairs-chaires.gc.ca